UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/144,782	09/01/1998	GHANI ABDUL MUTTALIB ABBAS	P/61149.USP/	5198

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EXAMINER
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ART UNIT	PAPER NUMBER
2666	2 6

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/144,782	ABBAS, GHANI ABDUL MUTTALI
	Examiner	Art Unit
	DANG T TON	2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2003* .

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *80-101 and 123-136* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *80-101 and 123-136* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

1.   The following is a quotation of the appropriate

paragraphs of 35 U.S.C. 102 that form the basis for the

rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or
>
> a foreign country or in public use or on sale in this country, more than one
>
> year prior to the date of application for patent in the United States.

Claims 80, 82-86,89-92,96,98,99, and 123-136 are rejected

under 35 U.S.C. 102(b) as being clearly anticipated by ITU-T

Recommendation G.707 (Network node interface for the synchronous

digital hierarchy).

For claim 80, ITU-T G.707 discloses a method for the

transmission of data in a synchronous digital hierarchy (SDH)

network (see page 3 section 3.3 lines 1-2 and page 5 section

3.10), comprising the steps of: transmitting to a node (see page

4 section 3.7 lines 1-2) of the SDH network a concatenated data

signal (see C-4-Xc in figure 8-8/G.707,page 42 section 8.1.7.1)

from outside the SDH network, converting the signal into a

virtually concatenated information structure (see VC-4-XC in

section 8.1.7.1 and figure 8-8/G.707, page 88 section 10.2.3,

figure 10-19/G707, page 86 section 10.2, and page 87 section

10.2.1), and transporting the signal through the SDH network in

the virtually concatenated information structure (VC-4-XC ,see

page 42 section 8.1.7.1 and page 88 section 10.2.3), the

converting step including the step of processing a path overhead

(see path overhead J1,B3,C2,G1,F2,H4,F3,K3,and N1 in figure 8-

8/G.707) of the signal by using a part of the path overhead (see

H4 in figure 8-8/G/707 and page 66 section 9.3.1.6) to indicate

a sequence of frames in the virtually concatenated information

structure (see page 52,section 8.3.8 and figures 8-13/G707 and

8-14/G.707).

For claim 82, ITU-T disclose the concatenated signal

being transmitted to the SDH network from outside the SDH

network is in contiguously concatenated form (see C-4-XC in

figure 8-8 and section C.3.3).

For claim 83, ITU discloses the concatenated signal from

outside the SDH network comprising a virtual container four

(VC-4) or virtual container three (VC-3) or an administrative

unit three (AU3)(see VC-3,VC-4 and AU-3 in figure 6-1/G.707).

For claim 84, wherein the path overhead comprises bytes

H4, J1 and B3(see path overhead in figure 8-8/G.707) wherein the

VC-4 and VC-3 comprise a plurality of the frames, and the step

of processing the path overhead includes the steps of using byte

H4 for indicating the sequence of the frames (see page 52,

section 8.3.8 and figures 8-13/G.707 and 8-14/G.707)within the

VC-4 or VC-3, using byte J1 to indicate an order of VC-4s or

VC-3s (see page 64 section 9.3.1.1) in the virtually

concatenated information structure, and correcting, as

necessary, error indication information carried in byte B3(see

page 64 section 9.3.1.2 and section C.5 page 99).

For claim 85, wherein the transmitting step transmits

the concatenated signal in the form comprising four contiguously

concatenated VC-4s(see X=4 in section 8.1.7.1 and 4VC-4s in page

97 section C.3.3), and wherein the processing step processes the

four VC-4s into the virtually concatenated information structure

comprising virtually concatenated VC-4s for transfer across the

SDH network(see VC-4-XC in figure 8-8/G.707).

For claim 86, wherein the transmitting step transmits

the concatenated signal in the form comprising contiguously

concatenated VC-3s, and wherein the processing step processes

the VC-3s into the virtually concatenated information structure

comprising virtually concatenated VC-3s for transfer across the

SDH network(see VC-3 in figure 6-1/G.707).

For claim 89, ITU-T discloses the steps of switching and

transmitting the VC-4 or VC-3 frames of the virtually

concatenated information structure through the SDH network

together in a single synchronous transfer module (STM) or in

multiple STMs and via a same route(see VC-4,VC-3 and STM-N in

figure 6-1/G.707 and figure C.2/G.707).

For claim 90, wherein the concatenated signal from

outside the SDH network comprises a virtual container two (VC-2)

or a virtual container one (VC-1)(see VC-2 in figure 6-1/G.707).

For claim 91, wherein the path overhead comprises bytes

V5, J2, N2 and K4 (see section 9.3.2.1 to 9.3.2.4), and wherein

the step of processing the path overhead includes the step of

transferring contents of the path overhead bytes to unused parts

of the signal(see section 9.3.2.5, page 69).

For claim 92, wherein the transmitting step transmits

the concatenated signal in the form comprising two or more

contiguously concatenated VC-2s or VC-1s, and wherein the

processing step processes the VC-2s or VC-1s into the virtually

concatenated information structure comprising virtually

concatenated VC-2s or VC-1s for transfer across the SDH network

(see page 88 section 10.2.3 and figure 10-19/G.707).

For claim 96, in which the VC-2s and VC-1s comprise a

plurality of the frames, and the steps of switching and

transmitting the VC-2 or VC-1 frames of the virtually

concatenated information structure through the SDH network

together in a single synchronous transfer module (STM) or in

multiple STMs and via a same route (see VC-2/VC-1 in section

9.3.2.1, VC-2, STM_N in figure 6-1/G.707).

For claim 98, ITU-T discloses a synchronous digital

hierarchy (SDH) network in which data is carried in a virtually

concatenated information structure (see VC-4-XC in figure 8-

8/G.707), the network comprising: tributary cards (see TU-3,TU-

11,TU-12,TUGs in figure 6-1/G.707) arranged and configured to

process signals received in a contiguously concatenated form (C-

4-XC) to convert them into a virtually concatenated form (VC-4-

XC)to transfer across the network (see page 99 lines 1-2, page

42 section 8.1.7.1, figure 8-8, page 87 section 10.2.1).

For claim 99, ITU-T discloses the network wherein the

tributary cards are arranged and configured to process the

signals transferred to the SDH network in the virtually

concatenated form and to convert them into the contiguously

concatenated form (see page 86 section 10.2 (in reverse

operation).

For claim 123, ITU-T discloses a method for the

transmission of data in a virtually concatenated information

structure(see VC-4-XC in figure 8-8/G.707) comprising a path

overhead (see POH in figure 8-8/G.707) and a plurality of

frames(see figures 8-13/G.707 and figure 8-14/G.707), the method

comprising the steps of: transmitting the data in a sequence of

the frames, and using a part of the path overhead to indicate

the sequence of the frames in the virtually concatenated

information structure(see page 52 section 8.3.8 and figures 8-

13/G.707 and 8-14/G.707).

For claim 124, ITU-T discloses the path overhead

comprising an H4 byte, the method including the step of using

the H4 byte for indicating the sequence of the frames(see H4 in

figure 8-8/G.707 and see page 52 section 8.3.8 and figures 8-

13/G.707 and 8-14/G.707).

For claim 125, ITU-T discloses the virtually

concatenated information structure comprising virtual containers

(VC), and wherein the path overhead comprises a J1 byte, the

method including the step of using the J1 byte to indicate an

order of the virtual containers in the virtually concatenated

information structure(see page 64 section 9.3.1.1).

For claim 126, ITU-T discloses the path overhead

comprising a B3 byte for providing an error indication, the

method including the step of correcting, as necessary, the error

indication carried in byte B3 (see B3 in section 9.3.12 page 64

and section C.5 page 99).

For claim 127, ITU-T discloses a virtually

concatenated information structure (VC-4-XC in figure 8-8/g.707)

for carrying data in a frame sequence , comprising: a plurality

of frames, and a path overhead, a part of the path overhead

comprising means for indicating the frame sequence in the

virtually concatenated information structure(see page 52 section

8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 128, ITU-T discloses the path overhead

comprising an H4 byte for indicating the frame sequence(see page

52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 129, ITU-T discloses the virtually

concatenated information structure comprising virtual

containers, and wherein the path overhead comprises a Jl byte

for indicating an order of the virtual containers in the

virtually concatenated information structure(see page 64 section

9.3.1.1).

For claim 130, ITU-T discloses the path overhead

comprising a B3 byte for providing an error indication(see B3 in

section 9.3.12 page 64).

For claim 131, ITU-T discloses the virtually concatenated information structure comprising a virtual container four (VC-4) or virtual container three (VC-3) or an administrative unit three (AU3)(see VC-3,VC-4 and AU-3 in figure 6-1/G.707).

For claim 132, ITU-T discloses the path overhead comprising an H4 byte and a J1 byte, and wherein the H4 byte and the J 1 byte comprise information for controlling alignment of the virtual containers(see H4 and J1 byte in POH, figure 8-8/G.707 and alignment signal in figure 6-1/G.707).

For claim 133, ITU-T discloses a data signal from outside a network comprising a virtual container two (VC-2) or a virtual container one (VC-1)(see VC-2 in figure 8-8/g.707).

For claim 134, ITU-T discloses a network management system for managing data transfer in a virtually concatenated information structure(VC-4-XC in figure 8-8/G.707) for carrying data in a frame sequence, comprising: a plurality of frames, and a path overhead, a part of the path overhead comprising means for indicating the frame sequence in the virtually concatenated information structure (see page 52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 135, ITU-T discloses a tributary interface(see TU or TUGs in figure 6-1/G.707) for data transmission of a virtually concatenated information structure (VC-4-XC in figure 8-8/G707)for carrying data in a frame sequence, comprising: a plurality of frames, and a path overhead, a part of the path overhead comprising means for indicating the frame sequence in the virtually concatenated information structure (see page 52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 136, ITU-T discloses a network for the transmission of data in a virtually concatenated information structure (VC-4-XC in figure 8-8/G.707) for carrying data in a frame sequence, comprising: a plurality of frames, and a path overhead, a part of the path overhead comprising means for indicating the frame sequence in the virtually concatenated information structure(see page 52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically

disclosed or described as set forth in section 102 of this title, if the

differences between the subject matter sought to be patented and the prior

art are such that the subject matter as a whole would have been obvious at

the time the invention was made to a person having ordinary skill in the

art to which said subject matter pertains. Patentability shall not be

negatived by the manner in which the invention was made.

Claim 81,87,88,93,94,and 100 are rejected under 35 U.S.C.

103(a) as being unpatentable over ITU-T G.707 in view of

Bleickardt et al. (5,461,622).

For claims 81,87,88,93,94, and 100, ITU discloses the

communication described in paragraph 1 of this office action.

For claim 88, ITU disclose the step of controlling the

aligning step according to contents of bytes J1 and H4 (see J1

and H4 in path overhead (POH) and aligning signal in figure 6-

1/G.707).

For claim 94, ITU discloses the step of controlling the

aligning step according to contents of the path overhead byes

transferred to the unused parts of the signal (see page 88

section 10.2.3 and figure 10-19/G.707).

For claims 81,87,93,and 100, ITU-T discloses all the subject matter of the claimed invention with the exception of the tributary interfaces comprising one or more buffers for aligning the virtual containers in a communications network as recited in claims 87,93 and 100 and restoring the path overhead (POH) as recited in claim 81. Bleickardt et al. from same or similar fields of endeavor teaches the splitter and buffer 213 inserting spaces in each output so that overhead bytes can be added that are aligned between the rails (see column 5 lines 40-44 and boxes 508-1 to 508-3 and 213 in figures 2 and 5)and restoring the POH (see boxes 506-1 to 506-3 in figure 5). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the buffers and POH extractor as taught by Bleickardt et al. in the communications network of ITU-T. The aligning the virtual containers of ITU-T and restoring POH can be implemented by connecting the buffers and POH extractor of Bleickardt et al. into AU-4 or AU-3 of ITU-T. The motivation for using buffers and POH extractor as taught by Bleickardt et al. in the communications network of ITU-T being that it provides more efficiency for the system since the system can align/realign rate signals at the receiving end.

3.   The following is a quotation of 35 U.S.C. 103(a)

which forms the basis for all obviousness rejections set forth

in this Office action:

> (a) A patent may not be obtained though the invention is not identically
>
> disclosed or described as set forth in section 102 of this title, if the
>
> differences between the subject matter sought to be patented and the prior
>
> art are such that the subject matter as a whole would have been obvious at
>
> the time the invention was made to a person having ordinary skill in the
>
> art to which said subject matter pertains. Patentability shall not be
>
> negatived by the manner in which the invention was made.

Claims 97 and 101 are rejected under 35 U.S.C. 103(a) as

being unpatentable over ITU-T G.707 in view of Fukunaga et

al.(6,118,795).

For claims 97 and 101, ITU-T discloses a

method/apparatus described in paragraph 1 of this office action.

ITU-T discloses all the subject matter of the claimed

invention with the exception of detecting the receipt of signals

in the contiguously concatenated form by detecting/recognizing a

concatenation indication of the signals received as recited in

claims 97 and 101. Fukunaga et al. from the same or similar

fields of endeavor teaches the concatenation judgment section 25

detects the state of respective channel independently of the

processing by the pointer processing section 11 for detecting

the concatenation state of the reception data (see column 19

lines 19-22). Thus, it would have been obvious to the person of

ordinary skill in the art at the time of the invention to use

the concatenation indication of the received signal as taught by

Fukunaga et al in the communications network of ITU-T. The

detecting the concatenation of the received signal can be

implemented by connecting the processing pointer processing

apparatus of Fukunaga et at the receiving end of the

communications network of ITU-T. The motivation for using the

detection of the concatenation state as taught by Fukunaga et

al. in the communications network of ITU-T being that to

identify a frame size of the received transmission frame in the

SDH system and to perform flexibly and rapidly a reception

pointer processing corresponding to the frame size.

4.   The following is a quotation of 35 U.S.C. 103(a) which

forms the basis for all obviousness rejections set forth in this

Office action:

> (a) A patent may not be obtained though the invention is not identically
> disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the
> art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

Claim 95 is rejected under 35 U.S.C. 103(a) as being

unpatentable over ITU-T in view of Background of the invention

of Rickard (5,588,000).

For claim 95, ITU-T discloses the contiguously

concatenated VC-2s or VC-1s (see VC-2 in figure 6-

1/G.707) received from outside the SDH network comprising a

plurality of the frames in a set sequence (see page 52, section

8.3.8 and figures 8-13 and 8-14)

For claim 95, ITU-T disclose all the subject matter of the

claimed invention with the exception of reordering the frames in

the set sequence as required. The background of the invention of

Rickard from the same or similar fields of endeavor teaches a

provision of frames being received out of order, and thus burden

the destination device with the task of reordering the frames

(see column 2 lines 9-11). Thus, it would have been obvious to

the person of ordinary skill in the art at the time of the

invention to use the reordering frames as taught by the

background of Rickard in the communications network of ITU-T.

The reordering frames of Rickard can be implemented into

communications network of ITU_T by connecting the reordering

frame device at the receiving end of ITU-T. The motivation for

using the reordering frames in sequence as taught by Rickard in

the communications network of ITU-T being that it provides the

system more reliable since it detects which sequence is

misplaced and fixed the problem by reordering the frames in

sequence as required.

5.   Applicant's arguments filed 7/21/2003 have been

fully considered but they are not persuasive.

In the remarks of 7/21/2003, applicant traverses the

rejection of claims under 35 U.S.C 102. The traversal is based

on ground that reference does not teach the virtually

concatenated information structure. This argument is not found

to be persuasive. Applicant's attention is directed at figure 8-

8/G.707 wherein it teaches VC-4-XC (virtual concatenated

information); section 10.2.1 , figure 10-17/G.707, page 87;

section 10.2.3, page 88; and figure 10-19/G.707, page 89).

Moreover, applicant mentioned that reference do teach both

virtual and contiguous structures but no details are given how

contatenation is achieved and invention provides a practical

implementation of virtual concatenation that not known before

and is not found in G.707. This argument is not found to be

persuasive since applicant did not point out which limitation

from the claims is not taught by the reference.

Applicant also argued that reference does not teach H4 and

J1 for indicating the order of a concatenated VC. This argument

is also not found to be persuasive. Applicant's attention is

directed at page 52, section 8.3.8 and figures 8-13/G.707 and 8-

14/G.707 within VC-4 or VC-3 and page 64 section 9.3.1.1 wherein

it teaches H4 for indicating sequence of frames and J1 for

indicating an order of VC-4s or VC-3s.

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of

the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action

is set to expire THREE MONTHS from the mailing date of this

action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action

is not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will

expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated

from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

7.   Any inquiry concerning this communication or earlier

communications from the examiner should be directed to DANG T

TON whose telephone number is 703-305-4739. The examiner can

normally be reached on MON-WED, 5:30 AM-6:00 PM and Thur 5:30-

9:30 A.M.

If attempts to reach the examiner by telephone are

unsuccessful, the examiner's supervisor, RAO SEEMA can be

reached on 703-308-5463. The fax phone numbers for the

organization where this application or proceeding is assigned

are 703-872-9314 for regular communications and 703-872-9314 for

After Final communications.

Any inquiry of a general nature or relating to the status

of this application or proceeding should be directed to the

receptionist whose telephone number is 703-305-3900.

D. Ton

September 22, 2003

DANG TON
PRIMARY EXAMINER